



(19)

Europäisches Patentamt

European Patent Office

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(11)

EP 1 026 088 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
09.08.2000 Bulletin 2000/32(51) Int. Cl.⁷: B65D 5/54

(21) Application number: 00300544.4

(22) Date of filing: 26.01.2000

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE

Designated Extension States:

AL LT LV MK RO SI

(30) Priority: 28.01.1999 GB 9901913

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(54) Packaging cartons

(57) A shipping carton of paper or cardboard is in the shape of a cube or cuboid. It contains product cartons (50) arranged in rows (52, 54) with one row (52) facing a top face (2) of the carton and another row (54) facing a bottom face (4) of the carton. A central portion

(44) of the four side walls (10, 12, 14, 16) can be removed, so that the remaining part of the carton constitutes two trays (62, 64). Each tray holds and displays a row of product cartons (50).

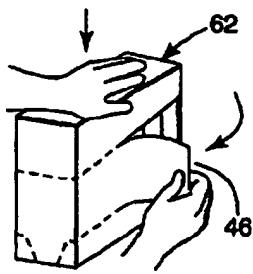


Fig. 3a

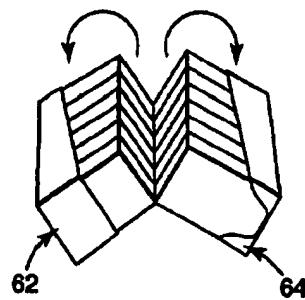


Fig. 3b

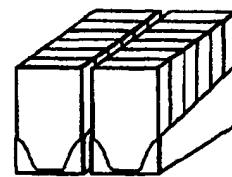


Fig. 3c

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Description

[0001] This invention relates to the packaging of items and in particular to cartons for the packaging, shipping and display for sale of items and to methods of packaging.

[0002] It is common for many consumer products to be sold in a product carton containing a plurality of such products. Examples of such consumer products include stationery items e.g. pens, pencils, crayons, paperclips etc.; confectionery; cigarettes and matches; and medical products e.g. adhesive dressings. The product cartons are typically made of paper or cardboard and are printed on the outer surfaces with information relating to the contents, use and origin of the products.

[0003] One of the problems associated with this conventional packaging is that it is necessary to produce and print separate blanks for forming the product cartons for every different circumstance. For example, the same products may be packaged in identical product cartons but the information printed on the product carton may be different for each country e.g. different language, and sometimes particular customers may require customised printing. Also, different products may be packaged in identical product cartons which, again, requires different information to be printed on the product cartons. Manufacturers marketing a range of products in different countries may find it necessary to stockpile packaged products in advance of their customer needs in order to avoid possible delays in obtaining the necessary printed blanks and adjusting the packaging line to produce the appropriately packaged and labelled products.

[0004] In general, a plurality of labelled product cartons are placed in a shipper carton for transportation to the customer. The shipper cartons are frequently cardboard boxes to which labels are applied indicating the contents of the shipper carton and often other information such as the name and address of the customer, order number etc. Upon delivery the customer removes the product cartons from the shipper carton and places them on a display stand or the like for sale and disposes of the shipper carton. This may be a time consuming operation. In some instances the product cartons may be inserted into display trays or the like prior to packing in the shipper carton for transportation to the customer.

[0005] US 4,113,100 discloses a cuboid display carton in which products are supplied. Subsequently much of the carton is discarded, to leave an end portion of the display carton which functions as a display tray. The nature of the product and its arrangement in the carton are not discussed in detail.

[0006] US 3,823,866 discloses a shipping carton for a product. The shipping carton is removed to completely expose the product by a process which includes removing a central portion of the shipping carton. The carton is not used for display. The nature of the product, and its arrangement in the carton are not discussed.

5 [0007] US 4,558,785 discloses a carton for rod-like products, such as papers towels. A central portion of the carton is removed, to leave end portions which function as display trays. The arrangement of the rod-like products in the carton is not discussed in detail.

10 [0008] GB 1,218,016 discloses a carton provided with a narrow tear strip on three sides. Once the tear strip is removed, the carton can be folded to create display trays.

15 [0009] None of the above documents mentions indicating the nature of the contents of a shipping carton on the carton exterior, or how this can conveniently be done.

[0010] The invention has been made with the above points in mind.

20 [0011] According to one aspect of the present invention there is provided a shipper carton for a product comprising a plurality of product items, the shipper carton being formed of paper or cardboard in the form of a cube or cuboid having six faces, the shipper carton comprising means to facilitate removal of a central portion from four adjacent faces, thereby dividing the shipper carton into two separate trays each tray comprising a base formed by a face of the shipper carton not containing said central removable portion and upstanding walls formed from remaining portions of said four adjacent faces after removal of said central portion to support and display the product;

characterised in that:

25 30 the plurality of product items are arranged in two or more rows such that a base of each product item in at least one row is adjacent a wall of the shipper carton not containing said removable central portion and a base of each product item in at least one other row is adjacent another wall of the shipper carton not containing said removable central portion; and
35 said central portion includes a label area to which is secured a label containing printed information.

40 45 [0012] The invention provides a simple and effective shipper carton which is used both for the transport of product to the customer and for display of the product. Upon receipt the customer simply removes the centre portion from the four adjacent faces, generally as a continuous strip, which leaves the product retained in two trays formed from the remainder of the shipper carton. The trays may be simply placed on a shelf etc. to display the products for sale. By confining the labelling area and other printed information, e.g. instructions to open the shipper carton, to the removable central portion, the display of the product is not marred by the remnants of labelling or printing etc. appearing on the trays.
50 55 The portions of the faces of the shipper carton forming the trays may be plain e.g. white thereby forming generic (unlabelled) trays. Alternatively, if desired, generic information e.g. company logo etc. may be

applied to appear in the appropriate places on the trays.

[0013] The shipper carton of the invention has the further advantage that it may be used generically for a range of suitable products and for different countries provided information is applied to the label area which is removed with the central portion. Thus, the manufacturer is required to stock only the generic blanks to form the shipper carton and the appropriate labels for the products and customer details.

[0014] The labelling area may be confined to one face or may extend over two or more faces e.g. a label may be positioned such that it is folded over an edge of the carton and is adhered to two adjacent faces.

[0015] The means to facilitate removal of the central portion of the faces generally comprises slits and/or perforations forming lines of weakness to allow tearing of the cardboard. However, other means known in the packaging art may be used to cause the cardboard to tear preferentially along predetermined lines e.g. tear strips, filaments, threads or tapes appropriately positioned on the faces of the shipper carton. Preferably, the central portion of the four faces is removable as a continuous strip. Additional printed matter may be applied to the central portion.

[0016] The shipper carton is conveniently constructed to include a finger lift which may be grasped by the user to initiate tearing and removal of the central portion. Alternatively, the edge of the panel may have a cut-away portion e.g. a semi-circular cutout, to allow access for a finger to initiate removal of the central portion. The shape of the removable central portion may be shaped to provide the desired configuration of the upstanding walls of the trays formed when the central portion is removed.

[0017] The central removable portion of the shipper carton may extend, in at least one of the faces in which it is provided, to an edge of that face contacting a face of the shipper carton which constitutes the base of one of the trays. This makes it possible to provide an open part of the tray from which it is particularly simple to extract product items. Furthermore, for at least one wall of the tray, or more preferably for each of the two walls of the tray adjacent the wall containing the open part of the tray, the edge of the wall away from the base may be inclined to the plane of the base, for example such that the wall becomes gradually lower (i.e. narrower) in a direction towards the open part of the tray. This edge may be substantially straight, or curving.

[0018] The shipper carton is especially useful for product items which have a substantially cubic or cuboidal shape and/or which are of substantially equal dimensions. The product items are preferably arranged in two rows, and are preferably dimensioned substantially to fill completely the shipper carton.

[0019] The shipper carton finds particular utility if the product is cubic or cuboid product cartons (e.g. of paper or cardboard) which are arranged in two rows such that the base of the product cartons in one row is

adjacent the wall of the shipper carton intended to form the base of one tray i.e. a wall not containing said removable central portion, and the base of the product cartons in the second row is adjacent the wall of the shipper carton intended to form the base of the second tray. This arrangement will result in each tray containing a single row of product cartons when the shipper carton is dismantled. It is possible to pack more than two rows of product cartons in the shipper carton in a manner which will result in the trays having two or more adjacent rows of product cartons when the shipper carton is dismantled. The dimensions of the shipper carton and product cartons are preferably such that the tops of the product cartons in one row are adjacent the tops of the product cartons in the other row so that there is little or no movement of the product cartons within the shipper carton. It is preferred that the product cartons have identical dimensions.

[0020] The product cartons used in the invention are preferably made from generic blanks to which the appropriate product information is applied by labels prior to, during or after assembly of the product carton. The generic product carton blank may be completely plain e.g. white or coloured card, or it may contain generic information applicable to all of the potential uses of the carton, e.g. company identification, company logo, graphic instructions to open etc. The information relating to the specific product is printed on labels which are applied to the blank or assembled product carton. This arrangement is particularly advantageous since it enables the manufacturer to use the same generic blank for packaging different products, different quantities of the same product, product for different countries or customers. The manufacturer simply

requires labels to be printed with the appropriate information for the contents, language of the country of sale, customers etc. If the labels are applied to the assembled product carton there need be no disruption of the packing line when different information is required to be displayed on packaging for the same product.

[0021] The labels may be readily printed by any suitable printing technique. The labels must be capable of being secured to the product carton e.g. with suitable adhesive. The labels may conveniently be provided with a coating of pressure-sensitive adhesive to facilitate application to the carton. Such adhesive coated labels may readily be carried on a release carrier e.g. in the form of a roll, to facilitate application by hand or machine.

[0022] The advantages of the use of generic blanks for product cartons include lower manufacturing costs of generic blanks and assembled product cartons as a result of higher volume runs, minimised exposure to forecasting errors and obsolescence risk since labels need not be applied until there is a product demand, reduced lead times and increased flexibility to supply dedicated packaging at competitive cost.

[0023] The invention will be described by reference

to the accompanying drawings in which:

Figure 1 represents a diagram of a blank suitable for forming a shipper carton in accordance with the invention,

Figures 2a and 2b represent diagrammatic front and top views showing the arrangement of product cartons within a shipper carton,

Figures 3a to 3c graphically illustrate the dismantling of a shipper carton and

Figure 4 represents a diagram of a generic blank for forming a product carton.

[0024] Figure 1 represents a diagram of a generic blank suitable for forming a shipper carton in accordance with the invention. The blank is conveniently cut from a sheet or web or card or light corrugated cardboard.

[0025] The blank comprises flaps (2a, 2b and 4a, 4b) which when folded form the top of the carton. Preferably the flaps (2a, 2b) are folded beneath flaps (4a, 4b) and the adjacent edges of flaps (4a, 4b) are secured, by bonding flaps (4a, 4b) with adhesive to the flaps (2a, 2b) below. Alternatively, flaps (4a, 4b) may be folded beneath flaps (2a, 2b) and secured with adhesive or adhesive tape. Flaps (6a, 6b and 8a, 8b) are arranged in a similar manner to form the base of the shipper carton. Panels (10, 12, 14 and 16) form the front, left side, rear and right side faces of the shipper carton respectively. The blank has fold lines (18, 20, 22, 24 and 26) separating adjacent panels and flaps. The fold lines may be formed by indentation or scoring the material forming the blank. Flap (28) extends from panel (16) and during assembly is secured beneath the edge of panel (10) with suitable adhesive to maintain the structural integrity of the carton. The blank comprises a labelling area (30) extending over the central portion of panels (12, 14) forming a side and rear of the carton. Upon assembly of the blank, the resulting carton is in the form of a cuboid. The dimensions will depend upon the products to be shipped and displayed. A typical size of this shipper carton when assembled is 17 x 21 x 8cm.

[0026] The blank is provided with perforations or score lines (31, 32, 34 and 36) and cuts (38, 40 and 42) which define a central portion of the four adjacent faces formed by panels (10, 12, 14 and 16). The central portion (44) is shown in cross hatch. The edge of panel (20) has a slight projection (46) forming a finger lift. Alternatively, the edge of the panel (20) may have a cut-away portion (not shown) e.g. a semi-circular cutout, to allow access for a finger to initiate removal of the central portion (44).

[0027] Figures 2a and 2b represent diagrams from the front and top of a shipper carton formed from a blank of Figure 1 showing an arrangement of product cartons. The product cartons (50) are arranged in two rows (52, 54) with the tops (56) of product cartons from each row being adjacent. The base (58) of the product

cartons in row (52) is adjacent the top (2) of the shipper carton which is formed by flaps (2a, 2b, 4a, 4b) of the blank shown in Figure 1. The base (58) of the product cartons in row (54) is adjacent the base (4) of the shipper carton formed by the flaps (6a, 6b, 8a, 8b) of the blank shown in Figure 1.

[0028] The dimensions of the product cartons (50) are selected to provide close packing within the shipper carton. The product cartons (50) are generally cuboid and may optionally have an extended portion (60) projecting above the top (56). The extended portion may facilitate removal of the product cartons from the display trays. The extended portion may have one or more holes therethrough to allow the product carton to be suspended from a rack, hook or the like.

[0029] In use, the blank shown in Figure 1 is assembled to form a box and the product cartons (50) are inserted as shown in Figures 2a and 2b before the final sealing of the flaps. A label providing an indication of the contents of the box is applied in labelling area (30) and optionally a further label applied to provide other relevant details e.g. customer name and address, order number etc. The shipper container is then transported to the customer.

[0030] Figures 3a, 3b and 3c illustrate the use of the shipper carton by the customer. As shown in Figure 3a, the user grasps the finger lift (46) and pulls causing the entire central portion (44) to become detached from the remainder of the shipper carton. The user is left with the two rows of product cartons nested in trays (62, 64). Tray (62) has a base formed by flaps (2a, 2b, 4a, 4b) and upstanding walls formed by the remnants of panels (10, 12, 14, 16) adjacent those flaps. Tray (64) has a base formed by flaps (6a, 6b, 8a and 8b) and upstanding walls formed by the remnants of panels (10, 12, 14, 16) adjacent those flaps. The user separates the two rows of product cartons nestled in the respective trays (Figure 3b) and places the trays on a suitable surface for display and sale (Figure 3c).

[0031] The removable central portion may be configured to provide the display trays (62, 64) with different configurations of upstanding wall for aesthetic appearance and/or functionality e.g. to facilitate removal of the product cartons. For example, the side walls of the trays may be inclined so that they are lower towards the front of the tray as illustrated in the drawings. The front wall of the tray may have a cutaway portion to facilitate viewing and/or removal of the product carton. Spacers (not shown) may be incorporated in between adjacent product cartons in a row for the purposes of stability.

[0032] It will be appreciated that it is not essential to pack the shipper carton with two or more rows of product cartons. In some cases when the product cartons are sufficiently large a single layer of product cartons may be packed in the shipper carton. After removal of the central portion of the shipper carton the product cartons are retained in one tray and the other tray is removed.

[0033] Figure 4 represents the blank of a generic product carton suitable for use in the invention. The blank comprises a series of flaps and panels which may be assembled to form a cuboid carton having a flip lid (in a similar manner to many cigarette packets). The resulting carton has a front (100), rear (102), sides (104, 106), bottom (108) and top (110).

[0034] The generic blank of Figure 4 is essentially plain with the exception of generic information, which is not specific to the contents of the carton. In this case the generic information is the company logo (112), which in this embodiment is shown printed at the corner of the front face (100) and side (104), and graphic information (114) illustrating how the product carton may be opened. In use, one or more areas of the outer surface of the product carton may have labels applied providing information about the contents. Three exemplary labelling areas (116, 118 and 120) are shown in broken outline. Labelling area (116) is confined to the top of the front face (100). Labelling area (118) extends over a large proportion of the front face (100) and over a portion of the sides (104, 106). Labelling area (120) substantially completely covers the rear (102) of the product carton. The labels to be applied to the labelling areas are suitably shaped so that they do not mask any printed information on the blank or interfere with the opening of the product carton.

[0035] It will be appreciated that a range of different labels may be printed for each of the labelling areas depending upon the particular products which are packaged, the country in which the products are to be sold, the specific requirements of the customer etc.

[0036] The blank additionally comprises a flap (122) which, when the carton is assembled, forms an extended portion projecting upwardly above the top from the rear of the carton (shown as (56) in Figure 2a). The flap has an aperture (124) which allows the product carton to be suspended from a hook or prong of a rack passing through the aperture. If it is desired to hang the product cartons rather than use the trays formed from the shipper carton, after removal of the central portion from the shipper carton, the product carton will be held in alignment in the resulting trays and the trays may be used to present the row of product cartons to the prong of a rack allowing the prong to pass through the apertures of the extended portions of the product cartons so that the entire row, or a portion thereof, may readily be correctly located on the rack and thereafter the tray removed.

[0037] The dimensions of the product carton are selected to accommodate the desired products and fit the shipper carton. Convenient dimension of the product carton for adhesive bandages is 8cm x 11cm x 2.5cm.

Claims

1. A shipper carton for a product comprising a plurality

of product items (50), the shipper carton being formed of paper or cardboard in the form of a cube or cuboid having six faces, the shipper carton comprising means to facilitate removal of a central portion (44) from four adjacent faces (10, 12, 14, 16), thereby dividing the shipper carton into two separate trays (62, 64) each tray comprising a base formed by a face of the shipper carton not containing said central removable portion (44) and upstanding walls formed from remaining portions of said four adjacent faces (10, 12, 14, 16) after removal of said central portion (44) to support and display the product;

characterised in that:

the plurality of product items (50) are arranged in two or more rows (52, 54) such that a base of each product item in at least one row (52) is adjacent a face (2) of the shipper carton not containing said removable central portion and a base of each product item in at least one other row (54) is adjacent another face (4) of the shipper carton not containing said removable central portion; and
said central portion (44) includes a label area (30) to which is secured a label containing printed information.

2. A shipper carton as claimed in Claim 1 in which the means to facilitate removal of said central portion comprises perforations (31, 32, 34, 36) and/or slits (38, 40, 42) defining the outline of said central portion (44).
3. A shipper carton as claimed in Claim 1 or Claim 2 additionally comprising a finger lift (46) or cutaway portion to facilitate removal of said central portion.
4. A shipper carton according to any preceding Claim in which, in at least one said face (12, 16) containing said central portion, the central portion (44) extends to an edge of that face which adjoins one of said faces (2, 4) of the shipper carton not containing said central removable portion (44).
5. A shipper carton according to any preceding Claim in which, upon removal of said central portion, at least one of the walls of at least one of the trays (62, 64) has an edge furthest from said base of the tray which is inclined to the plane of the base.
6. A shipper carton according to any preceding Claim in which the product items are product cartons (50) formed from substantially plain blanks of paper or cardboard, or blanks of paper or cardboard having printed generic information not related to the contents of the product carton and have one or more labels secured to the outer surface providing infor-

mation relating to the contents and optionally the origin of the contents of the product carton.

7. A shipper carton according to Claim 6, in which the product cartons each further comprise an extended portion (60; 122) defining a respective aperture (124). 5

8. A method of packaging and displaying articles which comprises providing a shipper carton as defined in any preceding Claim, removing said removable central portion (44) of the shipper carton, separating the resulting two trays (62, 64) containing product items (50) and positioning the trays for display of the product items. 10 15

9. A method of packaging a product comprising a plurality of product items, comprising:

providing a shipper carton formed of paper or cardboard in the form of a cube or cuboid having six faces, the shipper carton comprising means to facilitate removal of a central portion from four adjacent faces (10, 12, 14, 16), thereby dividing the shipper carton into two separate trays (62, 64) each comprising a base formed by a wall of the shipper carton not containing said central portion and upstanding walls formed from remaining portions of said four adjacent faces after removal of said central portion to support and display contents of the shipper carton; 20 25 30

and characterised by comprising the further steps of:

arranging said product items (50) in said shipper carton in two or more rows (52, 54) such that a base of each product item in at least one row (52) is adjacent a wall (2) of the shipper carton not containing said removable central portion (44) and a base of each product item in at least one other row (54) is adjacent another wall (4) of the shipper carton not containing said removable central portion; and 35 40

applying a label indicating the contents of the shipper carton to a label area (30) which is part of said central portion. 45

10. A method of packaging as claimed in Claim 10 comprising the additional steps of forming the product items (50) as product cartons from blanks devoid of printed information relating to the intended contents of the product carton, introducing products into said product cartons and applying at least one printed label to each of said product cartons, said printed label containing information relating to said products. 50 55

11. A method as claimed in Claim 10 in which the blank

comprises printed information not related to the intended contents of the product carton and said at least one printed label is shaped and positioned such that it does not mask said printed information on the blank.

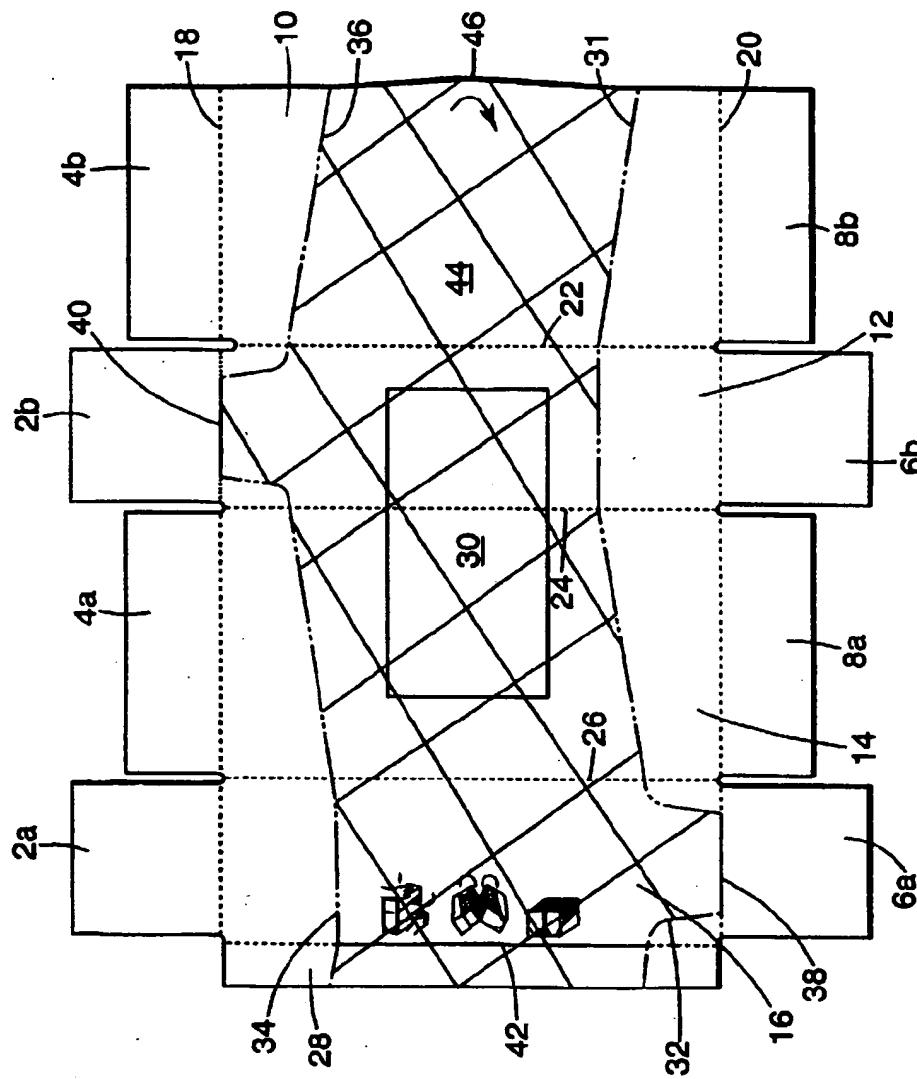


Fig. 1

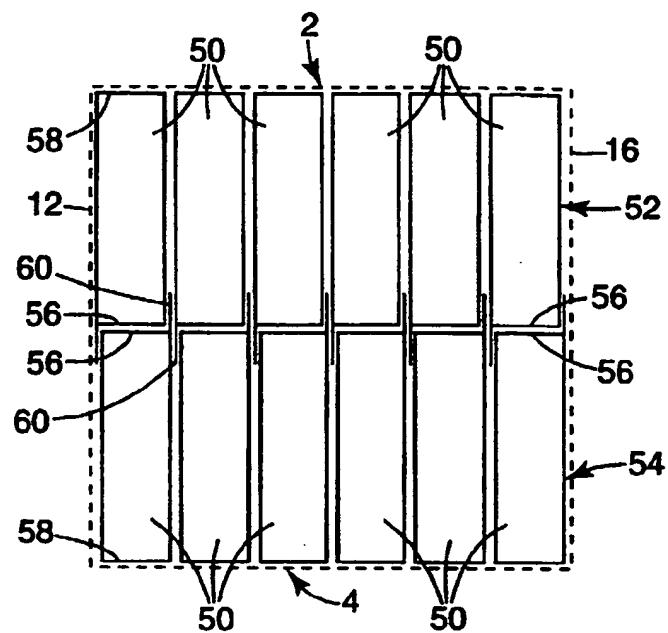


Fig. 2a

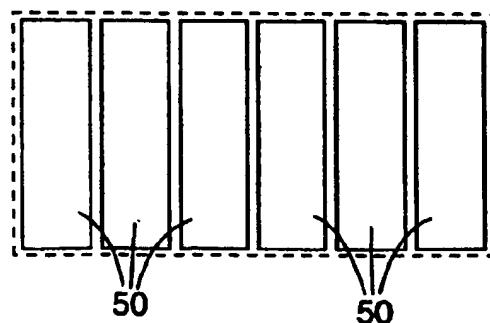


Fig. 2b

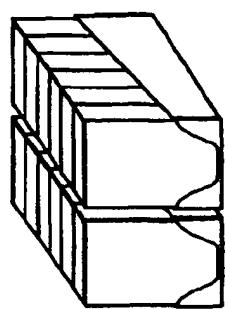


Fig. 3c

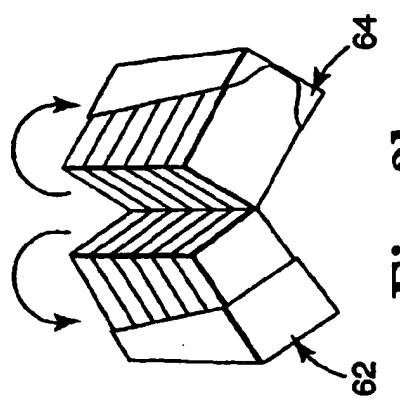


Fig. 3b

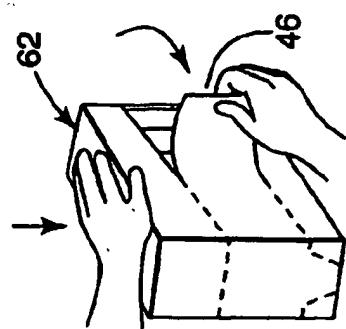


Fig. 3a

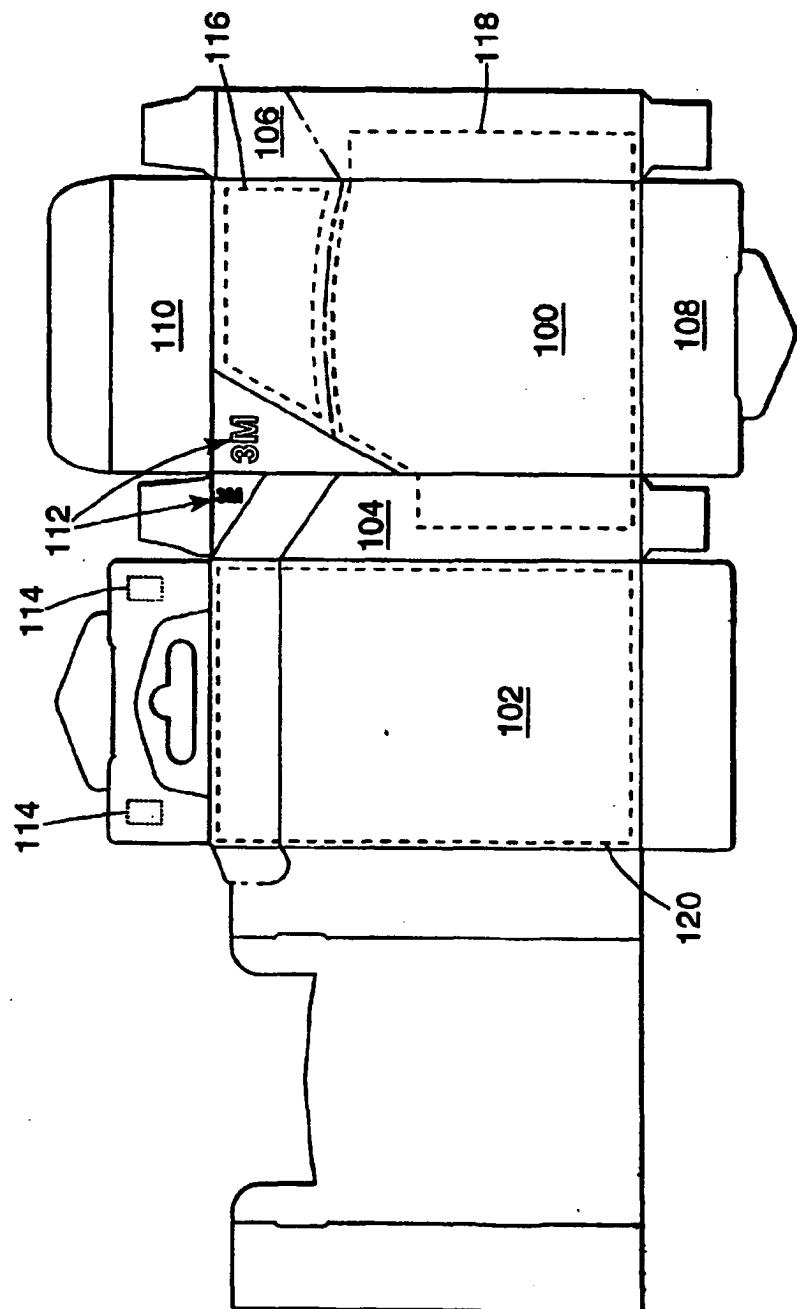


Fig. 4



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 30 0544

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.)
X	DE 21 23 258 A (S.A. PAPETERIES DE GASCOGNE) 25 November 1971 (1971-11-25) * page 4, line 14 - page 7, line 2; figure 1 *	1-5,8-11	B65D5/54
Y	---	6,7	
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A	EP 0 688 722 A (BOCCHIOTTI SOCIETA PER L'IND E) 27 December 1995 (1995-12-27) * column 2, line 27 - column 3, line 33; figures *	1	
A,D	US 4 113 100 A (SOJA LAWRENCE M ET AL) 12 September 1978 (1978-09-12) * column 2, line 4 - column 3, line 2; figures *	1	

			TECHNICAL FIELDS SEARCHED (Int.Cl.)
			B65D
<p>The present search report has been drawn up for all claims.</p>			
Place of search	Date of completion of the search	Examiner	
BERLIN	20 April 2000	Olsson, B	
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 0544

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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20-04-2000

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
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US 4113100	A	12-09-1978		NONE		

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82